

REMARKS/ARGUMENT

Claim 1 has been amended to focus on magnetically enhanced sputtering, support for which exists throughout the present specification.

Claims 1, 2 and 5-18, 20, 21 and 23-26 are currently pending.

The Office Action rejected (1) claims 1, 2, 23 and 24 under 35 U.S.C. § 103 as obvious over U.S. patent 4,107,019 ("Takao") in view of U.S. patent 4,961,979 ("Iida"); (2) claim 15 under 35 U.S.C. § 103 as obvious over Takao, Iida, and U.S. patent 5,483,067 ("Fujii"); (3) claims 5, 6, 25 and 26 under 35 U.S.C. § 103 as obvious over Takao, Iida, and U.S. patent 5,981,092 ("Arai"); (4) claims 7-14 under 35 U.S.C. § 103 as obvious over Takao, Iida, Arai, and U.S. patent 5,522,976 ("Campet"); (5) claims 16-18 under 35 U.S.C. § 103 as obvious over Takao, Iida, Fujii, and U.S. patent 5,831,760 ("Hashimoto"); (6) claim 20 under 35 U.S.C. § 103 as obvious over Takao, Iida, and IBM technical disclosure; and (7) claim 21 under 35 U.S.C. § 103 as obvious over Takao, Iida, and U.S. patent 5,905,590 ("Van Der Sluis"). In view of the following comments, Applicants respectfully request reconsideration and withdrawal of these rejections.

In making the pending rejections, the Office Action focused on disclosures in Takao and Iida which state that the NiO layers therein can be produced by sputtering, and asserted that these disclosures were sufficient to suggest the claimed target for sputtering. However, these assertions miss the point.

First, neither Takao nor Iida discloses using a target comprising predominantly nickel oxide in magnetically enhanced sputtering -- Takao's reference to sputtering is too general to provide such a detailed teaching for magnetically enhanced sputtering, and Iida's disclosure relates to using a Ni target for magnetically enhanced sputtering (see, col. 3, line 63 through col. 4, line 2, and compare examples 2 and 3). Accordingly, the combination of these two references would not lead one of ordinary skill in the art to an essentially ceramic target for a magnetically enhanced sputtering device comprising predominantly nickel oxide.

Second, Takao's target is a "compacted powder mixture of Ni and NiO." Accordingly, it does not appear to be an essentially ceramic target as required in claim 1. Iida's disclosure relating to a Ni target for magnetically enhanced sputtering cannot compensate for Takao's deficiencies.

Third, no evidence exists to indicate that the nickel oxide in Takao's powder is oxygen-deficient with respect to the stoichiometric composition NiO as required by the claims. The "compacted powder mixture" should not be considered to be an oxygen-deficient nickel oxide. Rather, based on the sparse disclosure in Takao, the target appears to be a simple mixture of two different powders which have not reacted with each other -- one powder is Ni and the other is NiO, a non oxygen-deficient nickel oxide. Takao's nickel oxide is simply "NiO" which is not oxygen-deficient.

The above differences between the applied art and the invention targets are significant. For example, the invention target's oxygen deficiency makes the target electrically conductive compared to NiO (claim 1 specifies that the electrical resistivity is less than 10 ohm.cm), which allows for magnetically enhanced sputtering in DC mode which, in

turn, allows for the making of a thin film having a high area. Other targets such as those briefly discussed in the applied art do not allow for such benefits to be obtained.

The secondary and tertiary applied references do not compensate for Iida's and Takao's fatal deficiencies. Nothing in any of the references would have motivated one of ordinary skill in the art to modify the disclosures in Takao or Iida to yield an acceptable target in a magnetically enhanced sputtering device as required by the pending claims, and/or to modify them in such a way as to yield a target having oxygen deficiency and/or the electrical resistivity set forth in the claims.

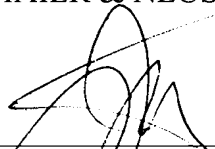
In view of the above, Applicants respectfully request reconsideration and withdrawal of the pending rejections under 35 U.S.C. §103.

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Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Richard L. Treanor
Attorney of Record
Registration No. 36,379

Jeffrey B. McIntyre
Registration No. 36,867

Customer Number

22850

Tel #: (703) 413-3000
Fax #: (703) 413-2220